

**REMARKS**

Claims 1 and 14-39 are pending in this application. Claims 14-17 and 20 are withdrawn from consideration, as drawn to non-elected subject matter. Claims 18, 19, 26-28, and 32-37 have been cancelled. Claims 38 and 39 have been added.

Applicants would like to thank Examiner Qian for her time and consideration in the telephone interview of December 16, 2003. Applicants make this submission based upon the discussion in the interview where provisional agreement was reached with respect to the amendments discussed below.

Support for for the amendments to claims 21 and 29 and for new claims 38 and 39 can be found in the specification as filed, for example, in original claims 14, 18 and 19; Examples 2 and 4; page 6, lines 21-24; page 10, lines 21-27, page 12, lines 19-21; on page 13, lines 8-27, and elsewhere throughout the specification.

**REJECTION OF CLAIMS UNDER 35 USC §112, FIRST PARAGRAPH**

Claims 21-26 are rejected under 35 U.S.C. §112, first paragraph. The Examiner contends that the claims are only enabled for a method of producing a transgenic, non-human mammal by microinjection.

Applicants respectfully disagree for the reasons provided in the previous response; however, to facilitate prosecution, Applicants have amended independent claim 21 to recite that the defined segment of DNA is integrated into the genome of a mammal by microinjection of a fertilized egg. Applicants have also cancelled, without prejudice, claim 26. Applicants respectfully submit that these amendments overcome the Examiner's rejection, and respectfully request withdrawal of this ground of rejection.

Claims 29-31 remain rejected under 35 U.S.C. §112, first paragraph, as being enabled only for a method of producing a transgenic mouse having integrated into its genome a defined segment of DNA by homologous recombination in mouse ES cells.

Applicants respectfully disagree for the reasons provided in the prior response; however, to facilitate prosecution, Applicants have amended claim 29 to recite a method of producing a transgenic mouse by homologous recombination in mouse ES cells. Applicants have also cancelled claims 32 and 33. Applicants respectfully submit that these amendments overcome the Examiner's rejection, and respectfully request withdrawal of this ground of rejection.

**REJECTION OF CLAIMS UNDER 35 USC §112, SECOND PARAGRAPH**

Claims 21-37 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. The Examiner contends that the claims are incomplete because they omit essential steps. Specifically, the Examiner contends that the claimed method lacks steps for introducing the DNA into a non-human mammal by microinjection, developing the embryo into a chimeric non-human animal, and further breeding said mammal to generate a transgenic non-human mammal.

In reply, Applicants respectfully submit that the Examiner's rejections of the claims are rendered moot by the amendments to the claims. Independent claim 21 has been amended to recite the additional steps of introduction of the DNA into a non-

human mammal by microinjection of a fertilized egg, transferring the fertilized egg to a pseudopregnant non-human mammal, and allowing the fertilized egg to develop into a transgenic, non-human mammal. As discussed in the telephone interview, Applicants respectfully point out that in the case of random integration by microinjection of a fertilized egg, embryos, newborns, and adult animals carrying the transgene are not chimeric and further breeding is not necessary because the transgene is incorporated in all cells, including germ cells, allowing the transgene to be passed to future generations. In view of these amendments, Applicants respectfully request that the Examiner withdraw this ground of rejection.

Claims 29 –37 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps. Specifically, the Examiner contends that the claims omit the steps of developing the chimeric embryo to a chimeric mouse, and further breeding of the chimeric mouse to obtain a transgenic mouse.

In reply, Applicants respectfully submit that the Examiner's rejections of the claims are rendered moot by the amendments to the claims. Independent claim 29 has been amended to recite the additional steps of developing the transgenic embryo to a chimeric mouse, and breeding the chimeric mouse to test for germline transmission of the transgene, and breeding the germline-transmitting chimeric offspring to obtain a transgenic mouse. Applicants also amended claim 29 to recite "transgenic mouse" in the preamble, instead of "embryo" to more clearly define the scope of the invention. The term "transgenic mouse" includes any stage of development, including an embryo,

newborn and adult. Applicants respectfully submit that the above amendments render the claims definite and respectfully request withdrawal of this ground of rejection.

With respect to the rejections of claims 26, 28 and 35-37 under 35 U.S.C. 112, second paragraph, and the rejection of claims 27, 28, 34-37 under 35 U.S.C. 102(b), Applicants respectfully submit that the rejections are rendered moot by the cancellation, without prejudice, of those claims.

It is respectfully submitted that the above amendments and remarks put the claims in condition for allowance. Early and favorable action by the Examiner is solicited.

#### **AUTHORIZATION**

No additional fee is believed to be necessary. However, the Commissioner is hereby authorized to charge any additional fee(s) which may be required for this response, or to credit any overpayment to Deposit Account No. 13-4500, Order No. 4167-4000.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit

Appl. No. 09/729,043  
Amdt. dated Jan. 9, 2004  
Reply to Office Action of Aug. 12, 2003

Docket No. 4167-4000

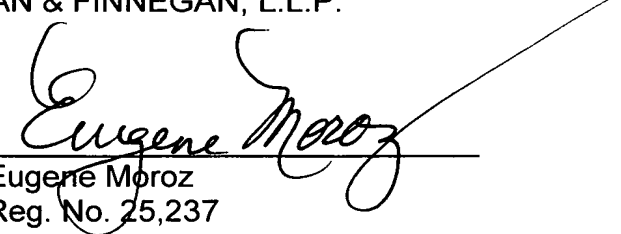
Account No. 13-4500, Order No. 4167-4000. A DUPLICATE OF THIS SHEET IS  
ATTACHED.

Respectfully submitted,

MORGAN & FINNEGAN, L.L.P.

Date: January 9, 2004

By: \_\_\_\_\_

  
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